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Patent Application

Method of . . ." and "Apparatus for:

Quantum Vortex Implosion Propulsion and Species

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Method of . . ." and "Apparatus for:

Quantum Electro-Vortex Implosion Propulsion and Species

Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to improvements in aircraft incorporating vortex chamber swirl-vane-designs, mixing of radial and tangential flows and more particularly but not by way of limitation, to means for providing lift and propulsion for aircraft, extracting usable energy from the environment through vortex, action, air passing through an hyperbolic chamber, vortex convergence and swirl zone. Said suction-head or vortex flow gives rise to higher-pressure differential gradients of high and low pressures forming a vacuum so that the pressure difference provides lift and propulsion for the aircraft.

From the mechanical and geometrical points of view:

The invention or aircraft designed and/or otherwise built as a usual or conventional airplane-glider will give rise to long running flight times, limited to landing only by the pilots needs, otherwise describing the human condition. By virtue of the invention's selective shape and interaction with nature said invention becomes a no moving part motor.

From the electronic point of view:

Conceptually speaking the aforementioned invention may be thought of as a no moving part motor, analogized as an electric motor wherein the invention becomes the stator and thus the air becomes the rotor thereby meeting the definition and criteria consistent with the description of a motor

2. Description f th Prior Art

As set forth within the elements of Aerofoil and Airscrew theory an aircraft's wing is designed with a plane of symmetry passing through its mid-point of span, and the direction of relative motion to the plane of resultant action in said plane.

Generally speaking, a common practice is to shape the wings of an aircraft so that the velocity of air streaming over the top or upper most surface of each wing is greater than the velocity of air streaming over the bottom or lower most or under surface of the wing. This velocity differential achieved by the contour of the wing, results in a pressure differential across the wing so that a net force, lift, is exerted on the wing to support the aircraft in flight.

Cord-line of an airfoil is defined as the line joining the centers of curvature for the leading and trailing edges and the projection of the airfoil section on this line is defined as the chord length. An airfoil's angle of incidence is defined as the angle between the chord and the direction of motion relative to the fluid through which the body is moving. An airfoil's center of pressure is defined as the point in which the line of action of the resultant force intersects the chord. Said resultant force is resolved into two components, lift, at right angles to the direction of motion and drag parallel to the direction of the craft although opposing the forward motion of the craft.

A common design flaw inherent within all aircraft of usual design is the aircraft's own geometrical shape design. That is any wing that deviates form the one hundred present coefficient elliptical wing assumed 100% efficient for purpose of comparison. Wherein the shock wave of parasitic drag is considered unavoidable and a price requiring payment in excessive fuel consumption wrought by incorrectly designed cantilevered wings disposed out from the aircraft's body ending with tapered wing tips.

Thereby decreasing the relative efficiencies of basic wing plane-forms with each wing inductively inducing parasitic drag according to the wing's own geometrical deviation from the perfect root two ellipsoidal plane-form.

Experimentation has greatly improved aircraft design, achieving greater flight performance as well as economic efficiencies of operation and construction methods thereof, yet to-date many problems exist within the industry.

Since the primary shock waves created by an airplane's wings cannot be avoided, the key to solving sonic problems clearly lies in wing design. Shock waves cannot be prevented but their effects can be reduced by several means making the wings thinner, sharper leading edges; shorter and wider designs sweeping them forward taking advantage of the shock wave or shaping the wing rearward in avoidance of said shock wave.

Unfortunately the more tapered or swept back the wing becomes the more adversely the wing becomes affected by parasitic shock waves sapping the aircraft's momentum and consuming excessive amounts of fuel conversely an ellipsoidal shaped wing is 100% co-efficient

Several combinations of these principles have been built into all modern high-speed aircraft. But all designs are at best compromises; some high-speed capabilities have to be sacrificed to enable the aircraft to be operative at low speeds e.g., take off and landing. This difficulty has been tackled with variable-sweep wings combining the best of both worlds for high-speed operation the wings can be angled in mid-flight, a drawback of the system is the complex equipment needed to move the wings.

In order to reduce supersonic wave drag further engineers need to study the wings and fuselage as a unit presented to the on-rushing air. Interestingly they found it important that the areas of cónsecutive cross-section of the plane, increasing from the nose and decreasing towards the tail, should add up to the smallest possible curve. Under this theory, called the "area rule" the perfect shape would be an egg--but the necessity for wings forces compromise. Therefore results will be significant not only for the performance but also for the look of supersonic aircraft and beyond

Paying particular attention to a design theory called the "compression lift rule" The basic idea here is that surfaces can be so arranged that shock waves will actually reinforce one another to provide lift, as in a planning speedboat or a rock when skipped across a pool of water. Because shock waves so severely affect an airplane's stability, the greatest problem for a pilot at the sound barrier is the changing control characteristics. A wing has a slowly moving layer of air called the "boundary layer" that clings to its surface.

Near Mach 1 shock waves can interact with the boundary layer to distort the airflow so that lift may be impaired and control surfaces rendered ineffectual. This disturbance also adds to the turbulent wake which is created by any conventional wing, whatever its speed. Therefore "wing-shape" and “surface-texture” is obviously important to the strategic control of airflow.

3. Description of the Prior Art

Concept of vacuum energy is satisfactorily explained by the diffusion of energy, similar to blowing a bubble under water which in turn rises to the surface seeking its own equilibrium. Is a view of a means for encapsulating the aircraft in a higher state of vacuum energy that is, V-shaped grooves called Riblets. These grooves inhibit the motion of eddies by preventing them from coming very close to the surface of a wing these V-shaped grooves prevent eddies from transporting high-speed fluid close to the surface where it decelerates and saps the aircraft's momentum. These and other concepts are being applied by NASA at the Langley Research Center, which demonstrated that use of the V-shaped grooves leads to a 5 to 6 percent reduction of viscous drag.

To be effective, the Riblets must be very closely spaced, like phonograph grooves on a record. It would seem that nature endorses this concept, the skin of a shark has tiny tooth-like denticles called "photomicrographs" that serve the same function as the Riblets, lessening the drag on the shark as it moves through the water.

Reference may usefully be made to the publication “Scientific American” January 1997 “Tackling Turbulence with Supercomputers” by Parviz Moin and John Kim pages 62-68.

4. Description of the Prior Art

Vortex Chambers

C.D. Pengelley published a simplified analysis of two-dimensional vortex fields in 1956. The calculations gave dimensionless pressure and temperature charts and included a numerical example for the two-dimensional vortex flow field. The purpose of the input element of a vortex pressure amplifier is to introduce swirl into the vortex chamber as a function of pressure input. As described above, the input element may be widely different for the various vortex devices: a single tangential orifice in vortex *diodes,* multiple nozzles located symmetrically to produce the balanced flow required in the Ranque-Hilsch Tube and Swirl Atomizers, and porous coupling elements in vortex inertial sensors to impart the small inertial rotation to the incoming fluid. In vortex valves and pressure amplifiers, the function of the input element includes the noise free mixing of a radial supply flow stream with the tangential control input.

The simplest design is the two port configuration, where the supply flow enters through a single tangential port mixing of the tangential momentum is accomplished efficiently and uniformly in the annular zone prior to entry into the vortex chamber as long as the annular zone allows free mixing of the control inputs, linear addition and subtraction of any number of pressure inputs is possible in the input elements of a vortex pressure amplifier.

In general, three basic rotational flow-fields may be encountered in a vortex chamber:

1. The solid body rotation or forced vortex flow occurs under high viscous coupling. At extreme tangential velocities the apparent viscosity in gases becomes large; values of the order of a thousand times the normal viscosity have been estimated in experimental reports on the Ranque-Hilsch Tube.

2. The free vortex rotation is defined by constant angular momentum. This mode of rotation may be observed in bodies of gases rotating at comparatively low velocities, when the effective viscosity becomes negligible.

3. Constant tangential velocity is a unique intermediate velocity distribution between the free vortex and forced vortex rotation. Tangential velocity profiles may be described for all conditions by simple exponential equations

For specific velocity distributions, the value of n may be defined:

n = -1 for free vortex velocity distribution
n = 0 for constant velocity distribution
n = +1 for forced vortex velocity distribution

Experimental results describing early development of vortex devices may be found in several of the referenced publications. The 1964 Proceedings of the Fluid Amplifier Symposium at the Harry Diamond Laboratories contain experimental results obtained with vortex fluid amplification.

Objects and Advantages

An object of the present invention is to provide but not by way of limitations, an aircraft with a propulsion means for forming a rearward directed air stream as well as an improved embodiment comprising an implosive suction-head so as to propel the aircraft simultaneously. In other words the push and the pull energy contained within the elasticity of the air stream are combined whereby useful work is preformed.

Another object of the present invention is to enable sustained and accelerated flight duration, too solve these problems without excessive fuel consumption, over heating of the fuselage e.g., applying ceramic materials to the exterior hull section of the craft and eliminating excessive drag common to conventional aircraft design another object is to provide aircraft of the design embodied here with a means of cooling itself.

Yet a further object of the present invention is to provide an enhanced flexibility in aircraft design.

Still another object of the present invention is to provide an aircraft with either a low or a high flight speed capability while reducing frictional losses. Another object of the present invention is to provide variable flight characteristics in an aircraft.

An additional object of the present invention is to reverse parasitic drag into a beneficial energy source doing useful work otherwise caused by the incorrect application of geometrical structures having been applied by conventional designers whereby the present invention overcomes this defect through the proper selection of a functional shape.

Other objects, methods, advantages and features of the present invention will become clear from the following detailed description of the preferred embodiments of the invention when read in conjunction with the lab report a species embodiment and drawings and in conjunction with Volume I as well as append claims.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an overhead view of an aircraft embodying the invention and particularly Illustrates the hyperbolic shaped horizontal vortex flow chambers the swirl vanes and eddy current diffusion cells 22a and Fig. 1b there on the surface of the wing and a means for controlling the vortex suction-heads illustrating an operational mode thereof

FIG. 2 is an overhead view depicting the vortex formations 48 48a and 48b of the aircraft shown in FIG. 1.

FIG. 3 is a rear elevation-al view of the aircraft shown in FIG. 1.

FIG. 4 is a front elevation-al view or the aircraft in FIG. 1 Fig. 4a is a frontal view of the aircraft depicted in FIG. 1 and showing elevated vortex generating wing-lets.

FIG. 5 is an angle view showing the (S) or scallop pattern or pinched in shape (optional) of the fuselage and vortex chamber of an aircraft embodying the invention.

Fig. 6 is a side elevation-al view of one fuselage shape embodying the invention also showing a hyperbolic impression there in the nose cone of the aircraft a wave reversal unit, which is an impression, or void of a predetermined shape and depth embodying the invention.

Fig. 7 is a side elevation-al view of the preferred fuselage shape and configuration detailing a hyperbolic impression there in the nose cone of the aircraft a wave reversal unit, which is an impression, or void of a predetermined shape and depth embodying the invention.

FIGS. 8, 9 and 10 depict species embodiments of the invention herein disclosed via lab reports.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the embodiment of FIGS.1 22-a and 1b, located on all surfaces are two-dimensional waffle-type patterns dispersed on the surface of the wing, that is a Quadratic-residue diffuser, a two-dimensional cell that diffuses acoustical energy and (preferably eddies currents) in both the horizontal and vertical planes for all angles of incidence thus forming a vacuum state many times higher in degree then the surrounding environment.

Reference for the early development of diffusers may usefully be made to the publication "The Master Hand-Book Of Acoustics" 3-RD Edition "Everest" Diffusion In Three Dimensions pp. 256-262

Fig. 1 is a diagrammatic representation of one specific embodiment of a component 1 in accordance with the invention generally indicates an internal wing there disposed within a horizontal vortex flow chamber aircraft comprising a flying-wing fuselage Fig. 4, 12 having a forward end Fig.1, 14, a rear end 16, a first side 18, a second side 20, an upper surface Fig. 5 22 and a lower surface Fig.3, 24, the connotations top and bottom being used to generally indicate the uppermost and lowermost surface of the aircraft Fig. 4, 10a and 10b when the aircraft is in substantially level flight, or in a stationary mode. A control surface 26 and 27 are provided at the aircraft's vortex-swirl-vane Fig. 1 and left and right hand control surfaces 28 and 30 are disposed at the front of the craft on opposite sides 28 and 30 and are movable simultaneously, but in opposite directions, to produce a rolling movement about the longitudinal axis of the aircraft 1 and may therefor be rendered optional and may be removed from the craft when controlled or steered electronically (not shown) verses mechanically.

Fig. 2 is an overhead view depicting the vortex formations of the aircraft shown in FIGS. 1-6 whereby atmospheric vortex action sets into motion a cooling effect which is leveraged from the direct action of the atmospheric harmonics produced by said rotary vortex said vortex rotary which sets up a thermal acoustic effect or thermoacoustic alternative vortex refrigeration powered by standing sound waves caused by a temperature gradient formed there in the convergence zone of FIGS. 1 and 2 there forming vortex suction-heads to occur which may set up a sound wave causing an interaction between the atmosphere and vortex chamber to harmonically sing or whistle this new refrigeration technique is decidedly low-tech however practical for producing ambient temperature superconductive devices a predetermined frequency comprising a standing wave note at just the right frequency to set up a standing wave of sound causing environmental cooling via vortex possessing a predetermined atmospheric pressure the sound waves cause the atmospheric gas to go through cycles of compression and expansion which is a key factor to acoustic cooling because gas heats up a bit when compressed and cools as it expands when a compression phase of the sound wave comes along the gas molecules of the atmosphere collide within said vortex and a vacuum cohesive vehicle (VCV) hull structure from which it radiates away then the gas expands and cools further than it would otherwise and some of its heat has been drawn off the process a progressive cooling which can be exploited for refrigeration the result is a refrigerant system that uses no ozone depleting CFCs and has only one moving part the environment it is the direct manipulation of said environment that conveys the craft along with its relative motion the only issue keeping the acoustic refrigeration system from producing an ambient temperature super conductor is a lack of interdisciplinary talent.

The people who do cryogenics don't know acoustics maybe this is the reason why there has been so little advancement in the art of ambient temperature super connectivity and when current is applied to the ceramic composition of said VCV aircraft standing sound waves get compressed and heat up nearby atmospheric molecules these atmospheric molecules collide and transfer some of their heat and cool down a bit after expanding the atmospheric molecules end up with less heat energy and are cooler than when they began the cycle. Note: researchers have already built a number of working acoustic coolers some capable of producing temperatures of around minus 100 degrees fahrenheit and have even been used aboard the space shuttle because they have fewer moving parts than conventional cooling systems acoustic coolers may well be suited to applications on satellites and space vehicles and even for ambient temperature super conductors where efficient maintenance free cooling is crucial

An engine or suitable quantum electro-dynamic power plant as shown in Volume I FIGS. 4 and 6 mounted in the forward end Volume II Fig. 4 of the aircraft 1 in any suitable manner as is well known and the power plant may also be any type which produces a rearward air stream and/or vortex flow or suction-head so as to provide thrust for the aircraft 1. Of course, suitable conventional landing gear (not shown) may be provided for the aircraft which my therefor be rendered optional and may be removed from the craft when propelled via quantum electro dynamic implosion propulsion Volume I FIGS. 4 and 6 verses mechanically and/or conventionally and/or radio or electronic steering control devices (not shown) are provided for guidance and optionally the actuation of the control surfaces in the usual or well-known manner may also be omitted thereby opting for electronic steering (not shown) also shown there in Fig. 4a vortex generating wing-lets 26 and 27 attached and positioned a predetermined distance and elevated above the main wing section also the egg-shaped vortex chamber my be reshaped to a narrow elliptical slit (not shown) thus a superior atmospheric vortex implosion or suction-head my be obtained via the configuration depicted in Fig. 4a gimbals control (not shown) of the vortex swirl vanes 26 and 27 may be obtained at wrists 26a and 27b and may be rotated to any desired position which affects directional control of the vortex swirl and swirl vanes 26 and 27

Horizontal hyperbolic vortex chambers Fig. 5, 52 and 53 are provided in the airfoil or fuselage Fig. 4, 12 and 44 of craft 10, with the forward end of the input elements 34 and 36 provided with openings 34a and 36b disposed on opposite sides of the fuselage 44 and on opposite sides of the power plant or engine shown in Volume I FIGS. 4 and 6 of Volume II FIGS. 1, 2, 3, 4, 5, and 6 craft 10. In addition, the vortex chambers Fig.5, 52 and 53 are provided with openings Fig. 4, 31,32, 38 and 40 disposed on the opposite sides of the fuselage 44 and disposed on opposite sides of the flying wing 12 and on opposite sides of the engine shown in Volume I FIGS. 4 and 6. The upper most section 42 Fig. 5 of the chambers 52 and 53 depicted a substantially ellipsoidal egg-shaped configuration and the ports or openings 34, 38 and 36 and 40 are separated by a centrally disposed fuselage means Fig. 4, 44 and swirl-vane system Fig. 1, 26 and 27.

The upper surface of the swirl-vane 26 and 27 provides a floor or bottom Fig.4 -10b for a passageway 38 and 40 that communicates between the hyperbolic chambers FIG.5, 52 and 53 and the openings Fig.4, 34a and 36b and that of 34, 36, 38, 40 and the upper contour Fig5, 42 of the main wing.

The lower surface Fig.3 of the vortex swirl-vane means 44a and 44b provides a convergence zone or surface at the hyperbolic chambers 52 and 53 at the input elements 38 and 40, and the arcuate configuration of the hyperbolic chamber 52 and 53 and the substantially hyperbolic egg-shaped configuration of the surface FIGS.1. 3. and 4, 34 34a 36 36b 41 42 and 50 and 51 converge to provide a reduced area or throat 50 and 51 shown in FIGS.1 3 and 4 an input to said hyperbolic chamber 52 and 53 disposed aft of the openings 34 34a and 36 36b 50 and 51.

As the air stream moves through the ports or openings 34a and 36b, the velocity thereof is increased by the configuration of the forward section of the hyperbolic chamber and vortex swirl-vane, this increased velocity at the exit of the throat 41 and 42 creates a suction at the converging passageway 31, 32 and 38, 40 and 34a, 36b and 52, 53 for drawing in ambient air through the ports 34, 36, 38 and 40. The combined air-streams then move rearwardly through the hyperbolic horizontal vortex flow chambers 52 and 53 there flowing across the upper surface of the main wing turning vane whereby the rearward jet-stream of moving air is further accelerated and turned down for discharge at the aft-end 16 of the wing thereof.

At least two movable flap means 28 and 30 (not shown) are hinged or secured in any well-known manner at the front open end 14 of the vortex chambers that are selectively movable by the operator of the aircraft Fig.1, 28 and 30 and secured substantially in the center of the hyperbolic chamber in spaced relation with respect to each other and movable simultaneously and in the same direction to provide a vertical force along the leading edge of the aircraft Fig. 1, thus changing the attitude of the craft, as is well known and may therefor be omitted when electronically steered.

Referring now more particularly to FIG. 3, a rear elevation-al view of the under portions of the hyperbolic chambers 52 and 53 view thereof. The cross sectional configuration of the hyperbolic chambers 52 and 53 at the leading edge opening 34, 36, 38 and 40 are substantially elliptical shown at 52 and 53 in Fig 5. The cross sectional configuration of the vortex chambers 52 and 53 becomes substantially elliptical as the vortex chamber progresses in the direction of the throat or input elements 34, 36, 50 and 51 the elliptical configuration being shown at 52 and 53 in FIG. 5.

The cross sectional configuration of the throat or input elements 50 and 51, as shown in FIG. 1, may be configured substantially pinched-in, rectangular, hyperbolic or other suitable shapes an example may be curved in.

This graduation of the configuration of the vortex chambers 52 and 53 controls the movement of the air stream between the openings 34, 36, 41 and 42 and the throat 50 and 51 whereby the speed of the air stream is substantially squeezed as it enters the throat as herein set forth.

The aircraft shown in FIGS. 1-6 are provided with a pair of oppositely disposed inwardly extending relatively small wings swirl-vanes 26 and 27, likewise the aircraft shown in FIGS.1-6 are provided with external wings there disposed within horizontal vortex chambers. The lifting force in the craft is attained entirely by the main wing section in conjunction with the internal hyperbolic vortex amplification chamber and swirl-vane system Fig.1 as hereinbefore described. The novel aircraft design lends itself as desired to an efficient glider and/or single or multiple engine design or a quantum electro dynamic implosion propulsion system as shown there in Volume I FIGS. 4 and 6.

The aircraft as shown herein, may be provided with at least two engines (not shown) or powered by a quantum elector dynamic implosion propulsion system as desired and shown in Volume I FIGS. 4 and 6 In addition, the novel aircraft design may be utilized in the construction of large transport or cargo aircraft or spacecraft with equal efficiency and economy of operation and construction.

The lift for the aircraft 10 is generated by the action of air moving over the main wing section whereby the air is accelerated through the hyperbolic vortex chambers 52 and 53. The swirl-vane directs the airflow from the underside and forward input elements 38 and 40 to the rearward outlet 16 for discharge at the rear of the craft. The movement of the air stream moving over the contoured section of the floor or upper most surface 12 creates a pressure and velocity change in the air stream. The configuration of the vortex chamber is such that a lower pressure is created on the roof or undermost surface 12 of the main wing than is created on the floor or lowermost surface 24 of the wing. The net difference in the pressure change results in an upward force or lift. The shape of the vortex swirl-vane and/or the configuration of the inner periphery of the hyperbolic chamber and the amount of air that moves through said vortex amplification chamber and across the main wing structure control this force.

The configuration of the vortex swirl is altered by the mechanical control mechanism 28 and 30 which may be deleted when electronically steered (not shown) which not only varies the configuration or contour of the vortex swirl Fig. 2, 48a and 48b of the hyperbolic chambers 52 and 53, and upper surface 10-a of the chamber. As the airspeed is increased through the vortex chambers 52 and 53, and FIGS.4, 6 and 7, 49 a wave reversal chamber composed of a predetermined size and depth there disposed within the nose cone section of the craft said wave reversal unit actually turns the air-stream encountered by the craft away from the aircraft FIGS. 4, 6 and 7 forming a vortex or suction-head Fig. 2 48 48a 48b requiring less fuel to be expended as opposed to conventional craft that are tapered to a point which actually turn the air stream back antagonistically toward the craft whereby more conventional fuels are required to-

generate the desired flight parameters Conversely, as the airspeed is decreased, more fuel is required to maintain the usual aircraft's required vertical force or lift.

Of course, the chamber size must be sufficiently great so as to permit the air flow through the contoured section of the vortex chamber without undue restriction of the movement of the air stream with the contoured section configured with the greatest or highest curvature for the contoured section of wing Fig.5 22. Similarly, the size of the vortex chamber cannot be so large that the air stream is allowed to pass through the chambers 38 and 40 without being properly influenced by the contoured sections.

The actual particulars of the vortex-chamber its shape and size are dependent on the considerations controlling the detailed design of the aircraft for its anticipated mission requirements. The operation of the vortex chamber and the contained contoured section Fig.5 42 provide the characteristics necessary to fulfill the fundamental requirements for producing a lifting and/or propulsion force for the aircraft.

It will be readily apparent from the drawings that the plane of the input elements 34 and 36 of the vortex chambers 52 and 53 are angularity disposed with respect to the direction of the incoming airflow. The vortex chamber inputs 34 and 36 are sensitive to this angular alignment, as is well known in the nature of input elements in general. The larger the angular alignment the larger the airflow properties as the air stream enters the vortex chambers 52 and 53 and begins its movement through said chamber. There are some small practical limits to this consideration, and this is the reason for the incorporation of the usual pitch-attitude control that is much like that of a conventional aircraft's major control device.

The flaps provide the pitch control 28 and 30 and a swept-up or a turned up tail section (not shown) usual to flying wings aft section 16. When these flaps are operated in conjunction with each other simultaneously and in the same direction, a vertical force is produced along the trailing edge of the aircraft 16, thus changing the attitude of the craft. Of course, this attitude change may be computer controlled or otherwise monitored by the pilot in order to adjust the alignment of the aircraft with the airflow.

Similarly, the pilot of the craft may maintain the directional control of the aircraft 10. The directional alignment of the control surfaces 28 and 30 their directional alignment plays an important role in the efficiency of the aircraft's stability and is fundamental to the maneuvering of the craft to a desired position or place. The horizontal jet-stream turned-up vane or tail section usual to flying wing aircraft (not shown) and the swirl-vane flaps 28 and 30 provide the necessary force to produce a rolling movement or level flight plan of the craft when flow by usual methods.

The rolling control of the craft is accomplished by the utilization of the flaps 28 and 30. It is preferable that the flaps 28 and 30 be arranged in co-operating left and right hand pairs, with one of each pair being disposed on each vortex swirl-vane.

The flaps or control surfaces of the right hand pair may be moved together, and the flaps of the left hand pair may be similarly moved together but in opposite directions with respect to the movement of the right hand pair.

This split movement feature produces a rolling movement about the longitudinal axis of the aircraft and modulation of the operation of these control surfaces will enable the pilot to bank, roll, and otherwise maneuver the craft in much the manner as a conventional aircraft. Of course, as herein-before set forth, all of the control vanes and/or surfaces are operably connected in any suitable or well-known manner including radio control or electronically steered (not shown) for actuation by the pilot of the craft optionally all moving parts including flaps of any suitable type that are capable of steering said craft may be deleted or otherwise removed the equation when electronic steering is chosen (not shown).

The function of the vortex chamber 52 and 53 are based on the amount of air moving through the input element section 34, 34a, 36 36b, 38 and 40 and swirled by the vortex swirl-vane 26 and 27 thereof to produce the desired vertical and linear force for the particular flight conditions of the aircraft 10. The movement of the air-stream through the vortex chamber 52 and 53 is the result of energy that is supplied to the air stream by the aircraft and its systems. This energy is supplied by moving the craft through the air ramming or by pumping the air through the vortex chambers by some mechanical means. When the forward movement or velocity of the aircraft i.e. produces all of the airflow ram induced, the performance of the craft will not be dependent solely upon the power available to move the craft through the air. When the air stream is ram induced Fig. 5 through the vortex chambers 52 and 53, the performance of the vortex chamber and the craft are greatly enhanced.

Similarly, pumping of the air may be accomplished in any suitable manner, such as by utilization of an impeller fan, ionization, quantum electro dynamic implosion propulsion system or the like, as shown in Volume I FIGS. 4 and 6 which may be disposed at either the intake or outlet end of the vortex chamber. Under these conditions, more energy is usually available when the fan is utilized to produce both a suction force and too produce a pressure simultaneously. In other words, it may be expedient to place the Impeller fan at the outlet of the vortex chamber rather then the inlet thereof.

Pumping of the air Fig. 5 through the vortex chambers 52 and 53 may also be accomplished by pumping a percentage of the air stream through the input elements 50 and 51 at higher pressure and entraining the remaining air by viscous action, which is the principle of a jet pump. In the aircraft this is accomplished by diverting the air from the power plant or engine (not shown) of the craft into the input elements Fig. 4 34 and 36 of the vortex chambers Fig. 5 52 and 53 and discharge the air stream through the outputs thereof.

The air stream entering the input elements 34 and 36 moves to the throat or pinched pipe area FIGS. 1 and 3 50 and 51 where the velocity of the air stream is increased and as the air stream exits through the pinched pipe or throat area 50 and 51, ambient air is pulled into the vortex chambers 52 and 53 through the input elements 38, 40, 50 and 51.

The generation of a lifting force by flowing air through an internal passage, Fig. 5 such as the vortex chambers 52 and 53, are dependent upon the shaping of the passageway itself, and the utilization of the contoured chambered portion 42a is much like the upper surface of an airfoil configuration wherein a velocity change is created in the air as it passes over the main wing having passed through the vortex chamber. Since the shaping is primarily contained within the wing 10 of the vortex chambers 52 and 53, the largest velocity change occurs along the floor 12 and a lesser velocity change occurs along the under surface of the wing Fig.3, 24 of the vortex chambers 52 and 53.

Proportional to the changes in velocity along the length of the vortex chambers Fig. 5, 52 and 53, the pressure acting on the floor 10b is increased and the roof 10a is reduced.

The pressure along the floor or upper surface of the wing 10a is reduced more than the pressure along the roof 10b, thereby creating a pressure differential between the two surfaces. This pressure differential acts on the surface area of the contoured portion of the wing Fig. 5, 22 and 42a to create a vertical force in much the same manner, as does an external wing structure.

The relationship between the pressure change in the air stream passing through the passageway or vortex chambers 52 and 53 and the shape of the inner periphery 41 and 42 of said vortex generators 26 and 27 are directly related to the co-ordinate dimensions of the contour size and shape, and this relationship is well defined and computable by conventional and well known methods. In the flying of an aircraft, lift has always been conventionally controllable by changes in the angle of attack, coordinated with an airspeed or change in airspeed of the craft.

In the novel invention a ram implosion wing aircraft 10 the requirements are to produce a change in lift by changing the coordinate dimensions of the vortex generators or swirl-vanes 26 and 27 and their control surfaces 28 and 30 for the given airspeed or change in airspeed, and this is accomplished by the actuation of the control device (not shown). The effects of pitch attitude are the same in the aircraft 10 as in conventional external wing aircraft and are utilized in the production of lift in the craft 10 except when the optional control means (not shown) is by electronic steering said mechanical actuation my be removed from the craft.

The mathematics and physics surrounding the calculations of the velocity ratios at each horizontal vortex chamber are represented by the Navier-Stokes equations for an incompressible fluid. Because the domain of flow is unbounded and vortex rings are known to diffuse and translate, the equations are expressed in translating, expanding spherical co-ordinate airflow. As an example of the effects of the contour of the floor 42a on the velocity of the air stream passing over it, a comparison between a low curvature surface may be made.

As herein-before set forth the configuration or contour of the inner periphery of the vortex swirl chamber 52 and 53 is controlled by contour means thereof 52 and 53, and as the airspeed is increased through the vortex chamber, less expenditure of conventional fuels are necessary to generate the desired vertical force or lift. Conversely, as the airspeed is decreased, the greater the fuel expenditures required to maintain the required vertical force or lift for the aircraft due primarily to the decrees in ram inductive forces.

From the foregoing it will be apparent that the present invention provides a novel aircraft utilizing an internal wing concept there disposed within an externally mounted wing wherein an internal hyperbolic vortex swirl chamber extends through the fuselage of the aircraft and is provided with inlet means at the forward end and passing through the upper and lower section of the wing thereof and outlet means at the top surface and aft end of the wing thereof. The air stream passing through the vortex chamber creates an upward force or lift for the craft and control vanes are provided for achieving the usual or desired operational characteristics for the craft generally similar to more conventional external wing aircraft and optionally said control vanes may be disposed of in favor of electronic steering (not shown).

The novel aircraft concept lends itself to application for single engine, multi-engine craft (not shown) or super-conductive quantum electrodynamic implosion systems as shown in Volume I FIGS. 4 and 6, high-speed operational craft, large transport and or cargo craft, spacecraft, or substantially any other desired in-flight operational requirements.

SUMMARY OF THE INVENTION

The present invention exploits the above principles in a novel manner to similarly achieve greater efficiencies, lift and propulsion for an aircraft. In particular, the present invention contemplates the establishment of a pressure gradient in air streaming through a hyperbolic vortex flow chamber formed through the fuselage of an aircraft to provide lift and propulsion for the aircraft.

The pressure gradient increases through the convergence zone and high to low pressure differences occur thereof so that a larger vacuum force is exerted on all sections of the main wing thereof

The lift and suction-head formed by the convergence zone and swirl-vane built into the wing of the aircraft is the difference in these two forces. To this end, the chamber extends through the fuselage so that, as the aircraft is driven forwardly through the air, air enters and streams through said horizontal vortex flow chamber.

The use of vortex flow through a horizontal orifice, chamber or duct formed through the fuselage of an aircraft, as in a wing mounted externally of the fuselage, results in a number of benefits. A vortex generating lift system will generally result in a more compact aircraft or wing than can be constructed using conventional wings and the use of a hyperbolic convergence zone offers flexibility in the design of aircraft to meet varying purposes.

Since the shape of the exterior of an aircraft having a vortex generating lift system and hyperbolic convergence zone can remain fixed while the profile of the swirl-vane is changed, such change can be used to vary the performance characteristics of the aircraft so that the aircraft designer is given a design variation capability that will generally not be available where external wings only are used to lift the aircraft. That is, changes in performance can be accomplished by shaping structural members that provide the longitudinal camber of the floor and the effect of such shaping can be determined independently of other factors involved in the overall interaction of the aircraft with the air and vacuum and electromagnetic spectrum through which the aircraft will move.

Moreover, since the swirl-vane is within the fuselage of the main wing, an aircraft constructed in accordance with the present invention offers the capability of providing mechanisms for shaping the swirl-vanes or vortex generators in flight without affecting the structural integrity of the aircraft as might be the case were shaping attempted in a wing extending in cantilever fashion from the fuselage independently. In addition, the formation of lifting surfaces within said horizontal vortex flow permits a direct utilization for vacuum-cohesion purposes of air streams produced by vortex rotations, (normally thought of as parasitic drag induced by incorrect geometrical aircraft structures) now used to propel an aircraft so as to provide lift from the forward Ram-induction or forced vortex motion of the aircraft through the air. With lifting surfaces formed in an open horizontal vortex flow chamber, such streams can be diverted to provide lift and propulsion so that the aircraft can be flown at lower or higher speeds than would generally be the case for comparable aircraft having external wings alone, primarily due to the natural cooling effects and energy amplification caused by selective geometrical shaping of the wings.

This section below describes a species and alternative applications and embodiments as used in the present invention as a:

Vortex Generator Fig. 8 and also showing a vortex formation as used in the innovation;

for use on planes, trains, boats, submersibles and vehicles of any type and may be attached by adhesive or magnetic strip or any type of suitable attachment singularly or in combinations of rows and into any suitable combinations as is suitable to vortex dynamics said invention is also applicable for use on surfboards as an implosion fin Fig. 8a and is also well suited for use as a fan blade comprising radial flow fan blades Fig. 9. Primarily the only aspect of the invention that changes is the application for which said invention is used however the overall geometric shape and function remain unchanged which is to perturb the environment with vortex dynamics no matter if the innovation is used as a vortex generator a wing a fan-blade a surfboard fin a spoiler an aircraft or the selective shape of a superconductor these are just applications to which the method or technology apply and except for the number of individual blades or the composition of materials the general shape and function remain unchanged as described herein Volume I and Volume II below as is above and is well known to persons in the art

This section below relates to the present invention in a lab report and as a species embodiment configuring the present invention into a surfboard fin Fig. 8a and also showing a vortex formation as used in the innovation;

Conception and build date 2/2/1997 4:36 PM Calif. I R.A.P. did conceptualize and build a prototype consisting of three scaled down implosive vortex fins and one surfboard for use on surfboards by forming a pattern with paper board stock and hand laminating said pattern with glass cloth and resin I did build three implosion fins and mounted each to a scale sized surfboard I did test the design in a rectangular wave tank and through visual inspection and detection I discovered that the usually V-shaped antagonistic and parasitic wave front which adversely affects designs of usual configuration had effectively been reversed and eliminated and was now imploding via suction-head actually pulling in a forward manner on the entire surfboard as well as the implosion fins themselves said implosion fins may be mounted or otherwise attached to any type surfboard in the usual manner e.g. by hard glassing or any type of detachable or snap locking system commonly used in this industry.

This section below relates to the invention of the present innovation in a lab report and as a species embodiment comprising a radial implosion fan configured from the present invention Fig. 9;

Date of conception 2/2/1997 4:36 PM Calif. and build date 3/31/1999 I R.A.P. did conceptualize and build a prototype radial implosion fan I built up a first model composed of ten blades by forming a pattern from paper board stock and hand laminating said pattern with glass cloth and resin on the date in question which was not intended for testing I built up a second implosion fan with twelve fan blades using epoxy resin in like manner and mounted each to a suitable hub thus forming an assembly resembling a fan and attached the assembly by set screw to a 12v electric motor-

capable of at least ten thousand RPM during the preliminary testing seven of the fan blades violently broke loose from the hub assembly and were flung outwardly from the assembly said fan assembly destroyed itself because the epoxy resin had not fully cured and thus was not strong enough to withstand the ten thousand RPM test I built a third and final model 2/23/1997 composed of ten implosion blades but no further test have been conducted with this species embodiment thereof the present invention,

and shown in Fig. 9a the invention relates to the embodiment of the aforementioned invention as a species comprising a centripetal implosive swirl vane i.e. center seeking shown in Fig. 9a an axial flow vortex swirl device that may be introduced into the intake of any type of combustion engine which my also be mounted in any type suitable duct or sleeve within any type of pipe conveying air, water or any other type of fluid (not shown) for mounting within said intake the blades of the axial flow swirl device may be comprised of either straight blades (shown) or curved blades with a pitch angle (not shown) of course curved blades i.e. a pitch angle would introduce an additional swirl element not yet depicted by Fig. 9a also shown in Fig. 9a is a rectangular stem with a parabolic depression located in the cleft or face disposed there in the middle of the axial and horizontal vortex flow vanes, a second shape (not shown) would comprise an egg shape disposed there in place of the rectangular stem, this egg shape could be installed there in the middle of Fig. 9a with the large end of the egg upright and preceding the smaller end and the smaller end facilitating a squeeze on the air, water or any other type of fluid, note also that the functionality of the invention remains relatively unchanged rather it is the application that changes. I began testing a crud version of this embodiment on or about 1/6/2003 consisting of a 4-bladed unit, and the initial test results yielded a 5-mpg improvement, as of 1/10/2003 I began construction of an implosive swirl vane comprising 6-pitched blades, unfortunately due to adverse weather conditions my progress has been slowed, although I do hope to begin testing this new unit after submitting this application.

This section below relates to the aforementioned invention as a species embodiment configuring the present invention into a superconductor by vulture of its selective shape composed thereof a ceramic composition see Volume II Fig. 1 also see Volume I detailed description.

This section below relates to the aforementioned invention in a lab report and as a species embodiment configuring a wing of the present invention into a ram induction spoiler for the express purpose of increasing fuel efficiencies of vehicles applying a species version of said means to extract from an atmospheric environment useable inductive wing-tip vortex energy disposed there within a horizontal and hyperbolic amplification flow chamber FIGS. 1-6 and 10;

Lab R port

Ram Implosion Vortex Generating Systems
Amplification and Extraction of Environmental Energies

Purpose: Increase Fuel Efficiencies
Materials: Vortex Generator made of Styrofoam and hand lamination glass resin
Procedure: Test Drive
Data: Preliminary test dates 3/31/2000. Secondary test date 10/15/2002

Approximate weight of the wing is 76 pounds

Results: 3/31/2002. 26-mile round trip at 65 MPH resulted in a 25% increase noted in fuel efficiencies. 10/15/2002 100-mile test run at 70 MPH resulted in 34.16-MPG verses the 18-MPG normally consumed by the test vehicle thereby resulting in an increase in fuel efficiencies of 50%.

Error Sources: No wind tunnel testing available
Conclusion: Advances in design plus lighter weight materials may yield even greater fuel efficiencies.

Purpose: To increase fuel efficiency by applying techniques known as aerodynamic drafting. Actually gaining and/or extracting useful work from the amplification of wing tip vortices i.e. shock waves, (the differential pressures between that of high and low pressures, which cause vortex formations to occur, selectivity). Usual wings or spoilers are designed with only one purpose in mind.

Which is to create a jet-stream of air pressure intended to brake-up air turbulence by ejection and/or pushing away vortex eddy currents which produce drag via trailing elastically along behind any vehicle in travel through the medium of air or fluids. Otherwise usual spoilers are intended only for their aesthetic appeal, ultimately possessing no practical or purposeful function. It should be noted that the use of a jet-stream concept is indicative of a brute force concept at best. A concept that employs only half of the available energy contained within the elasticity of the atmospheric medium.

Embodied within the scope of the present invention is an added and second hybrid dimension. Whereby a powerful multi-cyclonic vortex or suction-head is caused to occur (via a selectively designed vortex generating system) preceding and/or selectively placed ahead of the ejection or jet-stream thereby effectively coupling both the push and the pull energies inherent within the fluid dynamics of the atmospheric medium. Said vortex generator or implosion spoiler consists of a strategically designed and elliptically swept forward set of wings. Said wings are routed through hyperbolic curvatures (for the purpose of causing the viscosity or elasticity of the atmospheric fluid to hug a curve against its own centrifugal forces) and in combination with a swirl or vortex generating vane disposed there in a horizontal vortex amplification chamber.

The swirl-vanes Fig.1 references 26 and 27 cause high pressure air from under the wing to rotate Fig.2 references 48a and 48b over to the lower pressure existing on the upper most surface of the wing 22 thereby causing a vortex or suction-head to occur resulting in the two opposites of high and low pressure forming a convergence zone. Referring now to Fig.1 reference 49 comprising a parabolic impression of a

predetermined size and shape also causes the formation of a vortex to form in the air when rammed into and through the air, together these vortex suction-heads pull forward on the wing vs. the usual parasitic drag encountered by usual aircraft or any other type of vehicle in forward motion through an environmental medium thereby increasing fuel efficiencies. Whereby the rotations of air Fig.2 references 48, 48a and 48b are transformed into a multi-cyclonic vortex and suction-head, thus effectively reversing the parasitic effects caused by drag into a working energy transference and ultimately into greater fuel efficiencies when applied as a vortex generator, wing, fin etc. to any type of vehicle including electrically driven vehicles.

Materials: 1 Vortex Generator Wing mounted with any suitable type of nut and bolt fasteners. 1 Vehicle e.g., Truck

Procedure: Test drive said vortex generating system mounted and affixed to a motor vehicle, e.g. a truck. A test run consisting of a 100 mile distance without the vortex generating spoiler and once again with the vortex generating system. We will demonstrate how the design of a "Ram Implosion Vortex Generating System" will create a centripetal vacuum or suction-head as well as a tangential vortex force. Which will detract from the overall parasitic drag that is created by this or any other vehicle in motion while traveling through the air and thereby translate said suction-head into greater fuel efficiencies.

Data: The forces acting on the truck are in the form of a suction-head Fig. 10 (V) actually pulling backward on the vehicle in an antagonistic manner (B). As the vehicle travels through the air it produces a horizontal and counter clock-rotating wave (A). At first this horizontal waveform moves harmlessly out in front of the vehicle. However, as the truck begins to move faster the air becomes stretched elasticity, similar to a rubber band stretched between two-post (B). As the truck gains speed the horizontal wavefront bends backward thereby forming a parasitic vortex (V) which ultimately decrees fuel efficiencies.

Odometer: Difference: MPG w/o Odometer: MPG with
100 miles
162687.2 162787.4

Results:
MPG w/o the wing 18 MPG w/wing 34.16

Drafting is a technique most familiar to race car drivers and motorist alike who venture to close behind big-rig trucks as they encounter the turbulent effects of parasitic drag which is generated behind the big-rig truck as it moves through the air Fig. 10 (A) there is a horizontal wavefront that is being generated by the forward motion of the vehicle through the air which is now sucking the second vehicle along forward with the parasitic vortex formation that was generated by the forward travel of the big-rig truck through the viscous elasticity of the air.

10/15/2002 6:05 PM

I Robert A. Patterson did attach with all-thread and fashion a wing as disclosed herein onto the side rails of a truck thus forming an inductive or implosive spoiler and did depart from Coleman Oklahoma this morning 10/15/2002 at 8:15 AM with a full tank of gas toped off so that gas was pooling at the intake nozzle. In other words the tank was completely full and could store no more.

The odometer at the start of the trip read 162687.2

I then proceeded to drive a 100-mile distance with an average speed of 70 MPH to 12958 Coit RD. Dallas TX. with the vortex gen. system functioning and attached to the vehicle owned by Mark McDaniel a 1994 Chevy S-10 extended cab 4.3 liter V-6 Average gas mileage before the test was between 18-20 MPG. Upon arriving I pulled into the FINA gas station on Coit RD. and once again I toped off the tank so that it was completely full and removed the wing from the vehicle.

The odometer now read 162787.4 a distance of 100-miles and 5 tenths. Attaching the Vortex Gen. System to the vehicle translated into 34.16 MPG effectively doubling the mileage of this vehicle.

Witness	Inventor
Mark McDaniel Coleman Ok. 10-16-02 1:13 PM	Robert A. Patterson 10-15-02 7:03 PM

Error Sources: Inability to accurately measure the volumetric vacuum forces generated via the Ram Implosion Vortex Spoiler, Fin/Wing generating system. Due primarily to the lack of wind tunnel or other such test equipment to measure pneumatic differential pressures.

Conclusion: Combining aerodynamic principles with those of turbo charging and/or vortex mechanics. Into the form of a Ram Implosion Vortex Generating System my spoiler design resulted in, and demonstrated an overall increase in fuel efficiency by a margin of 25% to 50% increases for any vehicle fitted with the Ram Implosion Vortex Generating System.

The centrally located centripetal vacuum created by the wing subtracted from the overall parasitic drag of the vehicle. Resulting in the increased efficiencies and overall reduced drag. The quantity of fuel conserved during preliminary testing factored into a (.5) gallon decrees in fuel consumption. However the secondary test demonstrated a savings of half the fuel normally expended to over come the drag created by the vehicles motion through the air. This means that less fuel was expended to overcome

the drag of the vehicle. Thereby translating into savings of fuel and/or dollar-wise the more miles traveled while using the VGS (Vortex Gen. System)

Vortex Generator Environmental Energy Amplifier FIGS. 1-6 Volume II

Date of conception 1/22/97 11:PM Nevada

Construction began: Thursday Jan 23, 1997 4:15 PM

Factors contributing to the length of time to completion I suffered numerous set backs due to traumatic work related injuries as well as financial difficulties. Construction completed approximately 3/1/2000 dimension 6'6" six feet six inches across left to right and 3' three feet in depth front to back.

Lab repot and thoughts in general 5/1/02

Perhaps I should attempt to organize and submit another grant proposal in my spear time regarding the Ram Implosion Wing as an Implosion Spoiler and the mechanics involved. I do have the first test model as well as some verifiable results so I could propose a study of different models and present a marketing strategy based on my initial findings thus far which are a 25% savings in fuel cost to the consumer where the wing was mounted in an inverted manner where the air stream was turned up and a new test that reviled a 50% savings in fuel as of 10/15/20 where the wing was mounted in an upright position turning the air down in a usual manner common to aircraft.

I may base a new presentation on the fact that I have developed an actual test model, listing the draw backs of the excessive weight of the first unit and request funding based on the need to develop light weight versions adding the diffusion pattern for the purpose of pulling a higher state of vacuum as well as adding multiple vortex producing fins in an (X) pattern or other arrangements to the main wing strictly for increasing the ability to attach the wing to stronger vacuum/vortex energy plus the added benefit of reducing in size the wing enabling its use on smaller compact cars so that they may enjoy the same fuel savings as any larger sized vehicle

6/11/02

My attempt at producing a copy of the Ram Implosion Wing today 6/11/02 was unsuccessful. My attempt to make a diffusion pattern from waffles seemed like a good idea for making the quadratic diffusion pattern but the glass and resin would not take the shape of the waffle pattern because the waffle needed to be cooked prior to use as a pattern the glass cloth would not pack into the nooks and crannies. So I've come to the conclusion that either a mold has to be built, but that is rather involved and expensive therefor it would seem the only other alternative for building additional one off test models may be to get some foam and shape the wing by hand similar to making a

surfboard so that it turns out light weight vs. the heavier construction as in the first version.

I contemplated cutting the wing into two halves top and bottom and grinding out the excess material, which is making the wing excessively heavy.

Of course I still wouldn't have the diffusion or waffle pattern on the wing, but maybe if its lightened up enough I might just be able to glue the waffles right onto the wing thus forming the diffusion pattern? Also I think the waffles need to be cooked first so that the glass resin will soak into them.

I have entertained the thought of using some bubble packaging material and glue that to the wing, glass-it then sand the bubbles top surface enough to open the top of the bubble forming a small hole imitating the diffusion pattern. The main idea is to eliminate laminar flow in favor of producing vacuum energy by blowing the air away form the wing vs. sticking to the wing as applied through conventional aerodynamics.

6/12/02

Arriving home today 6/12/02 and discovered that the wind had blown the RIW off the saw horse's, it must have hit at an angle because one of the wings broke near the fuselage, however it didn't brake the wing off it just broke the internal structure and now the top surface has a dip in it and the only way to fix it appears to be to cut the wing into two halves top and bottom... The positive note here is that if I cut the wing in half I could lighten it by grinding out the excess material.

6/23/02

I discovered what was making the wing so excessively heavy. It was the cardboard construction materials soaking water up through the mounting holes, due to the wing sitting outside. You can see the circular cardboard patterns I used to construct the fuselage...where I cut it open...Using a large pair of water-pump pliers I reached inside and pulled all the wet cardboard materials out of the body of the wing. I must have reduced the weight by 20 pounds thus far.

The wing is still fairly heavy so when the top wing is glued back together I am going to cut a section out of the lower most side and remove more of the wet cardboard materials from the underside of the wing as well. All of the material used underneath the glass resin and cloth is cardboard and its socking wet and has been socking wet for several years now due to outside storage of the unit.

8/1/02

Scavenging foam from an ice chest I carved three sets of wings as described herein from styrofoam and as of this date I am in search of funding to further my

experimentation, caved styrofoam is far superior to the paper construction method discussed above.

4/1/03

I built a 30-inch six bladed version of the wing cited above and gained 18.9-miles per gallon in fuel savings over my usual 10-mpg only one test was conducted and no adjustments were made to the unit.

4/22/03

I have been testing the wing all week and making adjustments to the wing. The first and only test using the Atomic Star-6 yielded 18 MPG conversely the Scorpion-3 only yielded 13.63 MPG however after lowering the tail section by 2 inches the wing yielded 17.59 MPG at a height of 21 inches off the top of the roof of the van. Lowering the wing to 19 inches yielded 29.99 MPG lowering the wing to 12 inches off the top of the van yielded 43.88 MPG these last two test were with the AC on too my van weighs in at 5750 LBS. without passengers and my normal mpg is 10 mpg without the wing.

4/30/03

Today's test run with the new modifications to the Scorpion-3 wing yielded 18.73 MPG for a 224.8 mile test run facing both head and side winds approximating 35 mph emptying the 12 gallon auxiliary tank.

Tomorrow I can fill the tank with only one gallon verifying that the above test is indeed accurate although I expect the mileage to go up if there is no head or side winds...also if the one gallon test proves to be the same as above then Ill make changes to the wing either raising the tail section by two inches and/or by lowering the tail section by two inches from its current position and re-run the one gallon test with the wing in its new locations. I'm hope-ing to re-adjust the wing back to the 43-MPG or higher range and start getting consistent readings using only one gallon in the auxiliary tank for the test runs.

5/1/03

Today I lowered the wing an additional 2 inches setting it at 10 inches off the top of the van then took a test run which yielded 20.2 MPG at 68 MPH for 1.0 gallons of gas, mileage at the beginning of the test 63934.8 and at the end of the test 63954.0 = 20.2 miles driven...one gallon of gas. Tomorrow May 2, 2003 Ill lower the wing an additional 2 inches and re-run the test.

5/2/03 Today's test run with the wing lowered to 9 inches off the top of the van and only one gallon of gas in the tank running at 68 MPH yielded 18.9 MPG...a little less than yesterdays test run of 20.2 MPG so I've raised the wing back up to 10 inches off the top of the van and will re-run the test again either later this evening or tomorrow morning.

5/13/03 I tested a new configuration that I made to the wing and I set the wing to 9 inches off the top of the van and obtained 26 mpg while driving at a sustained speed of 70 mpg and stopped at 6 red lights as I pasted through town. The test probably yielded the 30-mpg I was aiming for had I not had to stop at the 6 red lights going through town. I am now convinced that if I applied more diffusion texture cells to the wing I could gain even greater fuel efficiencies.

5/14/03 Toady's test with the wing set at 11.5 inches off the top of the van driving in excess of 70 mph yielded 26.3 mpg conversely last nights test with the wing set at 9 inches off the top of the van and driving in excess of 70 mph yielded 26 mpg. Thus I have concluded that there is little or no critical height needed for the wing in light of its new modifications.

6/1/2003 I fabricated a centripetal implosion swirl vane vortex amplification chamber fashioned after the wing using 4 turning vanes and gained an increase of fuel mileage by 5-mpg after installing the unit into the intake of my vehicle. 12/9/2003 I have fabricated a six-bladed vortex implosion vane and anticipate an increase in mileage between 9 to 18-mpg. See FIG 9a ducting not shown and hope to test the unit by 12/30/2003

Aug. 13-th 2003 8:am I built a new prototype of the wing and installed it on the Meals On Wheels vehicle today. A Dodge Caravan with a V-6 motor weighing in at GVW 2726 lb. The driver weighs in at 295 lb. and I am 195 lb. After topping off the tank we drove out 10.1 miles and back the same 10.1 miles for a total of 20.2 miles round trip, at 65-mph with the ac unit on. When we arrived back at the fueling station we were amazed to find that we could only squeeze 0.2 tents of a gallon back into the tank, we even picked the hose up and tried to pour the extra gas from the line into the tank but it all ran back out onto the ground. 20.2 miles @ 0.2 tents of a gallon = 101-mpg

Our second trip consisted of a 59-mile round trip but this time we were only able to squeeze 0.1 tents of a gallon back into the tank. 59 miles @ 0.1 tents of a gallon = 590-mpg

Conclusion: Monitoring of the wings pitch-angle and height off the top of the vehicle via computer and GPS tracking fuel flow on the fly is required in order to maintain the enhanced fuel mileage achievable with this species embodiment of the invention described herein this application. 11/10/03 9:44AM

While particular embodiments of the present invention have been shown and described, it would be obvious to those skilled in the art that changes and modifications with respect to the applications may be made without departing from this invention in its broader aspects. Therefore, appended claims are to encompass within their scope all such changes and modifications as fall within the true spirit and scope of this invention method and species embodied by this invention method.

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References Cited

U.S. Patent Documents

U.S. Patent 5,590,031 Mead, Jr. December 31, 1996 Current U.S. Class: 363/8; 342/6; 363/178 International Class: H02M 001/00 Field of Search: 363/8,13,178 342/6,61,73,173,175

Reference may usefully be made to the publication:

Carpenter D. L., K. Stone, J. C. Siren, and T. L. CRYSTAL, Magnetoshperic electric fields deduced from drifting whistler paths, *J. Geophys. Res.*, 77, 2819, 1972.

Rosenberg, T. J., R. A. Helliwell, and J. P. Katsufrakis, Electron precipitation associated with discrete very low frequency emissions, *J. Geophys. Res.*, 76, 8445, 1971.

Storey, L. R. O., An investigation of whistling atmospherics, *Phil. Trans. Roy. Soc., 246*, 113, 1953.

Getting Started in Electronics by Forrest M. Mims 3rd Radio Shack PP. 5-77

Basic Electronics by Gene McWhorter & Alvis J. Evans Radio Shack Chapters 1-6

Magnetron Oscillator J. W. Gewartowski & H. A. Watson Principles of Electron Tubes 965 p. 428

Open Electromagnetic Waveguides IEE Electromagnetic Waves Series, No 43
By T. Rozzi, M. Mongiardo Publisher: IEE; (April 1997) ISBN: 0852968965

Fundamentals of Optical Waveguides (Optics and Photonics Series) by Katsunari Okamoto Publisher: Academic Press; 1st edition (February 2000) ISBN: 0125250959

Spectral and statistical properties of strongly driven atoms coupled to frequency-dependent photon reservoirs, M. Lewenstein and T. W. Mossberg, Phys. Rev. A 37, 2048 (1988).

Spontaneous emission of atoms coupled to frequency-dependent reservoirs, M. Lewenstein, J. Zakrzewski, and T. W. Mossberg, Phys. Rev. A 38, 808 (1988).

Squeezing and Dressed-State Polarization of Driven Atoms Coupled to a Frequency-Dependent Vacuum Reservoir, M. Lewenstein and T. W. Mossberg, Phys. Rev. A 38, 1075 (1988).

Vacuum-Field Dressed-State Pumping, Y. Zhu, A. Lezama, T. W. Mossberg, and M. Lewenstein, Phys. Rev. Lett. 61, 1946 (1988).

Cavity-Perturbed Strong-Field Resonance Fluorescence, A. Lezama, Y. Zhu, S. Morin, and T. W. Mossberg, Phys. Rev. A (Rapid Communication) 39, 2754 (1989).

Single-sideband spectral holographic optical memory, H. Lin, T. Wang, and T. W. Mossberg, Opt. Lett. 21, 1866 (1996).

H. E. Puthoff, Ph.D. Institute for Advanced Studies 4030 W. Braker Lane, Suite 300 Austin, TX 78759-5329 Date: Tue, 2 Sep 1997

Brown T. T. "How I Control Gravity" Science and Invention Magazine, August 1929. Reprint in Psychic Observer 37 (1) pp. 14-18

Rho Sigma, Either Technology: A Rational Approach to Gravity Control. Lakemont, GA: CSA Printing and Bindery, 1977, pp. 44-49 quoting a letter form T. T. Brown dated February 14, 1973

Electrogravitics Systems Reports On A New Propulsion Methodology Edited by Thomas Valone, M. A., P. E. Foreword Elizabeth Rauscher, and Ph.D.

Quantum Entanglement Young's Classic Double-Slit Experiment Matthew Parry-Hill and Michael W. Davidson - National High Magnetic Field Laboratory, 1800 East Paul Dirac Dr., The Florida State University, Tallahassee, Florida, 32310.

Cross-Field Microwave Devices by E Okress Vol. 2. P. 125 New York Academic Press Inc. 1961

Cross-Field Amplifier by J. W. Gewartowski & H. A. Watson
Space-Charge Waves & slow electromagnetic waves By A. H. W. Beck pp. 241-255 New York Pergamon Press 1958

Inventor:
Patterson Robert A. (Blue Springs RD. RT. 1. Box 66-A Wapanucka Ok. 73461)

Research reference may usefully be made to the publication:

Implosion The Secret of Viktor Schauberger, Complied by Tom Brown. Translated from German by Jorge Resines

Viktor Schauberger and his discoveries Implosion vs. Explosion by Leopold Brandstatter

Implosion At First Hand from the 1977 July-Aug Journal of Borderland Research, by Riley Crabb

Viktor Schauberger and his work from the 1979 May-June Journal of Borderland Research by Albert Zock

Nature Was My Teacher by Viktor Schauberger, German Translation by Albert Zock

Diffusion a la Viktor Schauberger by Albert Zock

Integration of the Lifeblood of the Earth November 1953 PENDULUM (Vol. 4, No 2) By Ellen V. Wilmont Ware

Secret of the Schauberger Saucers A theoretical Analysis by Jorge Resines

New Energies Foundation Implosion Workshop Applied Vortex Mechanics by William Baumgartiner P.O. Box 30752 Albuquerque, NM 87190

Spectral Method for Simulation of Vortex Rings by S. K. Stanaway and B. J. Cantwell of Stanford University and P. R. Spalart of Ames Research Center Oct. 1991

The Ranque-Hilsch Effect Vortex Tubes by M. Kurosaka, J. University of Tennessee Fluid Mech. 124, 139 Nov. 1982

Hydraulic/pneumatic power and control August 31, 1970 Radfoil concepts Theoretical & Engineering Techniques Ltd., Little Melton, Norwich England

Proposal for the use of controlled tornado-like vortex to capture the mechanical energy produced in the atmosphere from solar energy by Louis M. Michaud, P.O. Box 561, Port Elgin Ontario Canada N0H2C0

The Vortex Theory by Arnold G. Gulko, Vortex unlimited, 1835 Arcola Ave., Wheaton. Maryland 20902, USA.

Numerical Study of the Performance of Tornado-Type Wind Energy Systems S.S. Ayad Faculty of Engineering at Shoubra, Cairo, Egypt

Vortex Cannons Dr., Phillips Thomas Research Engineer Westinghouse Electric & Manufacturing Company

Manchester Memories. Vol. 1a 1911 # 7 The Behavior of Bodies Floating in a Free or a Forced Vortex By Professor A. H. Gibson D.Sc.

The Taming of the Vortex by Dr. Henry Wong Aeronautics University Glasgow

The Tornado by John T. Snow, National Oceanic & Atmospheric Administration National Sever Storms Laboratory in Norman Okla.

Vortex Suppressors Reduce Probe Vibrations, by Arthur J. Hill Rockwell International Corp.

Vortex Foils Invented by Jenkins & co-inventor Joe Sparks, diving supervisor's Mare Island shipyard. Popular Science: underwater wings fly upside down to keep shipping channels open

Windmills That Harness Hurricanes Inventor Victor Bolie, Professor of Electrical Engineering at the University of New Mexico. SCI. Digest July 1982

Vortex Devices E. A. Mayer & L. B. Taplin, Research Laboratories Division. The Bendix Corporation

The Amateur Scientist How to make and investigate vortexes in water and flame Conducted by C. L. Strong Popular Science

NASA Tech Briefs, Oct. 1991 Spectral Method for Simulation of Vortex Rings Ames Research Center Moffett Field, California

Scientific American" January 1997 "Tackling Turbulence with Supercomputers" by Parviz Moin and John Kim pages 62-68.

Physical Fluid Dynamics. DJ Tritton. Oxford Science Publications, 1988

Turbulent Times For Fluids Tom Mullin in Exploring Chaos: A Guide to the New Science of Disorder Edited by Nina Hall, W. W. Norton, 1993.

Feed-Back Control of Turbulence Parviz Moin and Thomas Bewley in Applied Mechanics Reviews Vol. 47, No. 6 Part 2 pages S3-S13 June 1994

R. Hilsch, "The Use of the Expansion of Gases in a Centrifugal Field as a Cooling Process," Review of Scientific Instruments XYI11, No. 2, February 1947, 108.

G. I. Taylor, "The Boundary Layer in the Converging Nozzle of a Swirl Chamber," Quarterly Journal of Mechanics and Applied Mathematics, iii, Pt. 2, 1950, *129*.

Symposium, The Vortex Tube as a True Free Air Thermometer Armour Research Foundation (Chicago IL May 24, 1955).

R. C. Kolf, Vortex Flow from Horizontal Thin Plate Orifices Ph.D. Thesis, University of Wisconsin, July 1956.

J.C. Stevens and R.C. Kolf, Vortex Flow through Horizontal Orifices Journal of Sanitary Engineering American Society of Civil Engineers, December 1957, paper 1461.

Proceedings of the Fluid Amplification Symposium, Harry Diamond Laboratories (Washington D.C., 1964)

C.D. Donaldson and R.D. Sullivan, examination of the solution of the Navier-Strokes Equations for a Class of Three Dimensional Vortices, AD 247471, Aeronautical Research Associates Princeton, NJ

The Master Hand-Book Of Acoustics 3-RD Edition "Everest" Diffusion In Three Dimensions pp. 256-262

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